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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/921,945	08/03/2001	Jonathan R. Belk	100.133US01	9187
34206	7590	11/28/2005	EXAMINER	
FOGG AND ASSOCIATES, LLC P.O. BOX 581339 MINNEAPOLIS, MN 55458-1339			SHAH, CHIRAG G	
			ART UNIT	PAPER NUMBER
			2664	

DATE MAILED: 11/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/921,945

Applicant(s)

BELK ET AL.

Examiner

Chirag G. Shah

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10/3/05.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 32-35 and 56-60 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-31, 36-40 and 42-55 is/are allowed.
- 6) ☒ Claim(s) 32, 35 and 56 is/are rejected.
- 7) ☒ Claim(s) 33, 34 and 57-60 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### Response to Amendment

1. Applicant's arguments filed 10/3/05 have been fully considered but they are not persuasive.

Regarding claim 32, Applicant argues that claim 32 is not anticipated by Upp since claim 32 calls for “using the removed RTS values over a plurality of time periods,” the portions of Upp cited by the Examiner with respect to using the removed RTS values over a plurality of time periods do not describe using RTS values over a plurality of time periods as contemplated by claim 32 of the present application. Examiner respectfully disagrees and redirects Applicant to Upp reference, specifically to col. 5, lines 24-37 and the abstract. Using the removed RTS values of the plurality of time periods is equated as receiving RTS values every N local clock cycles for the purposes of setting/recovering the service clock for the destination nodes. The received/removed RTS values over every N local clock cycles/plurality of time periods are used to provide a feedback error or control signal, which is used to adjust the controllable clock generator such as a digitally controllable oscillator 37 in the destination node. Thus, claim 32 is respectfully indeed anticipated by Upp since each and every limitation is taught.

Regarding claim 56, Applicant asserts that Jay does not anticipate the method of claim 56. In particular, Jay fails to teach or suggest “identifying a relative maximum fill level during the plurality of time periods as recited by claim 56. Examiner respectfully disagrees and redirects Applicant to Jay's reference, specifically to fig. 5 and col. 6, lines 20-53. Jay clearly

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illustrates in fig. 5 of identifying at each successive observation period, the maximum fill occupancy level. In addition, figure 5 identifies between two observation periods (plurality of time periods), a relative maximum fill level during the plurality of observation period, as cited in claim 56. Thus, based on the illustration provided in figure 5 and its specification, a relative maximum fill level is clearly identified on the graph of fig. 5 between two observation periods. Therefore, claim 56 is respectfully anticipated by Jay since each and every limitation is taught.

Regarding claim 35, Applicant argues that Examiner has provided no evidentiary basis to support the assertion that Upp suffers from the need for using buffer fill levels to control the local service clock. Examiner respectfully disagrees. Examiner clearly establishes that Muntz discloses in col. 10, lines 53-63 and col. 9, lines 60-64, that with the ACR destination module, a clock generation stage generates transmit clock at a frequency adjusted in accordance with the value of FIFO depth error establishing using that buffer fill levels control the service clock for optimization. One is motivated as such in order to determine the transmit clock frequency adjustment to make in accordance with the value of FIFO depth. Thus, Upp in view of Muntz establishes a prima facie case of obviousness for claim 35, where all the limitations are taught and provided with a detailed clear motivation.

2. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

*Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 32 rejected under 35 U.S.C. 102(b) as being anticipated by Upp et al. (U.S. Patent No. 5,608,731), hereinafter referred as Upp.

Regarding claim 32, Upp discloses in **fig. 2 and col. 3, lines 38-40** of a SRTS clock recovery apparatus and a method for service clock recovery, the method comprising:

removing (receiving) RTS values from data packets at the destination node [Upp discloses in col. 3, lines 62 to col. 4, lines 3, of an incoming ATM cell RTS sample value and discloses in col. 5, lines 24-26 of successive RTS values being stored in the RTS FIFO 48 at the destination node of fig. 2]; and

using the removed RTS values over a plurality of time period to set the service clock for the destination node [Upp discloses in col. 5, lines 24-37 and abstract, that every N local clock cycles (plurality of time period) an RTS is sent, and the received RTS values are compared to the local RTS values to provide a feedback error or control signal which is used to adjust the controllable clock generator such as a digitally controllable oscillator 37 in the destination node].

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 56 rejected under 35 U.S.C. 102(e) as being anticipated by Jay et al. (U.S. Patent No. 6,400,683), hereinafter referred as Jay.

Regarding claim 56, Jay discloses in **fig. 5** of a method for adaptive clock recovery, the method comprising:

monitoring a buffer fill level for a plurality of time periods [as illustrated in **fig. 5** and disclosed in col. 2, lines 30-35, the fill level of the buffer is measured at the end of each successive observation period];

identifying a relative maximum fill level during the plurality of time periods [**as illustrated in fig. 5 and disclosed in col. 6, lines 30-53; each successive observation period, the maximum fill occupancy level is identified**]; and

controlling frequency of a recovered clock signal based on the relative maximum fill levels for the plurality of time periods such that the recovered clock signal is substantially free of jitter [**as illustrated in fig. 5 and disclosed in col. 2, lines 30-40, the fill level of the buffer is measured at each time period and if the fill level is outside the predetermined threshold, the local clock frequency is either increased or decrease depending on whether it is the upper threshold or lower threshold that has been found to be exceeded**]. *Note: the adaptive clock method of fig. 5 based on buffer fill level at each time period and reverse correction operations as disclosed in col. 7, lines 15-17, minimizes/free the jitter since an adjustment to increase and decrease the local clock frequency is made to converge the local clock frequency towards the input frequency.*

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claim 35 rejected under 35 U.S.C. 103(a) as being unpatentable over Upp et al. (U.S. Patent No. 5,608,731), hereinafter referred as Upp in view of Muntz et al (U.S. Patent No. 5,896,427), hereinafter referred as Muntz.

Regarding claim 35, Upp discloses in fig. 2 of a FIFO (buffer) 48 for receiving RTS values and the numeric difference between delta RTS values is used as a control for recovering local clock. *Upp, however fails to disclose of using the buffer fill levels to control the local service clock.* Muntz discloses in col. 9, section C and in fig. 5 of an adaptive clock recovery (ACR) destination module 500. Muntz further discloses in col. 10, lines 53-63 and col. 9, lines 60-64, that with the ACR destination module, a clock generation stage generates transmit clock at a frequency adjusted in accordance with the value of FIFO depth error establishing using that buffer fill levels control the service clock for optimization. Therefore, it would have been obvious to one of ordinary skills in the art at the time of the invention to modify the teachings of Upp to include buffer level monitoring as taught by Muntz. One is motivated as such in order to determine the transmit clock frequency adjustment to make in accordance with the value of FIFO depth.

***Allowable Subject Matter***

8. Claims 1-31, 36-40 and 42-55 allowed.
9. Claims 33-34 and 57-60 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.



### Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chirag G. Shah whose telephone number is 571-272-3144. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 571-272-3134. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cgs  
November 17, 2005

  
**Ajit Patel**  
**Primary Examiner**